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January 10, 2000

**BOX PATENT APPLICATION**

Assistant Commissioner for Patents  
Washington, D.C. 20231

Re: Application of NAKAMURA, Lee E., TATE, Stewart E.  
METHOD AND SYSTEM FOR GENERATING MATERIALS FOR  
PRESENTATION ON A NON-FRAME CAPABLE WEB BROWSER  
Our Ref: A7631/ST9-97-004B

Dear Sir:

This is a request for a Divisional Application of pending prior Application No. 08/892,842 filed July 11, 1997 of NAKAMURA, Lee E., TATE, Stewart E. entitled METHOD AND SYSTEM FOR GENERATING MATERIALS FOR PRESENTATION ON A NON-FRAME CAPABLE WEB BROWSER.

This application is being filed under 37 C.F.R. § 1.53(b). Enclosed is a specification, including the claims, 7 pages of drawings and a copy of the Declaration as filed in the prior application. Also enclosed is a copy of the Assignment, an Information Disclosure Statement, a PTO Form 1449 listing references cited by applicant and/or the examiner during prosecution of the parent application.

The prior application is assigned to Group Art Unit 2776.

Amend the specification by inserting before the first line the sentence: --This is a divisional of Application No. 08/892,842 filed July 11, 1997, the disclosure of which is incorporated herein by reference.--

Cancel claims: 1-6 and 13-26, prior to calculating the Government filing fee.

The Government filing fee is calculated as follows:

Total claims	11 - 20	=	0	x	\$18.00	=	\$0.00
Independent claims	3 - 3	=	0	x	\$78.00	=	\$0.00
Base Fee							\$690.00

**TOTAL FILING FEE**

**\$690.00**

A check for the statutory fee of \$690.00 is attached. You are also directed and authorized to charge or credit any difference or overpayment to Deposit Account No. 19-4880. The Commissioner is hereby authorized to charge any fees under 37 C.F.R. §§ 1.16 and 1.17 and any

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petitions for extension of time under 37 C.F.R. § 1.136 which may be required during the entire pendency of the application to Deposit Account No. 19-4880. A duplicate copy of this transmittal letter is attached.

The application is timely filed.

Respectfully submitted,  
SUGHRUE, MION, ZINN,  
MACPEAK & SEAS, PLLC  
Attorneys for Applicant

By:

William H. Mandir  
Registration No. 32,156

# METHOD AND SYSTEM FOR GENERATING MATERIALS FOR PRESENTATION ON A NON-FRAME CAPABLE WEB BROWSER

## BACKGROUND OF THE INVENTION

### 1. Field of the Invention

The present invention relates to a system and method for presenting, over a network, materials contained in a single computer file.

### 2. Description of the Related Art

The Internet, as it is popularly known, has become an important and useful tool for accessing a wide variety of information. One component of the Internet is the World Wide Web (hereinafter, the web). In recent years the web has become an increasingly popular vehicle for providing information to virtually anyone with access to the Internet. Many sites (hereinafter, web sites) have been established to provide information in many different forms, such as text, graphics, video and audio formats over the web.

A typical web site includes system and application software programs installed on a web server that is connected to the Internet. By connecting the web server to the Internet, clients that are connected to the Internet can access the web site via the web server. Usually a client is located remotely from the web server,

1 although the client and server can be at the same location. Also, a web server can  
2 be connected to a private intranet, as opposed to or in addition to the public  
3 Internet, in order to make a web site privately available to clients within an  
4 organization.

5 A client typically accesses the web site by using a web browser. The web  
6 browser is a software program which runs on the client and receives from the  
7 server information formatted in a known manner. A very popular format for  
8 information sent over the web from a server to a client, is the hypertext mark-up  
9 language (HTML). HTML is a tag based script format, in which tags surround the  
10 information to be presented. By tagging the information to be sent to a browser,  
11 the browser can interpret the tags and handle the presentation of the information  
12 sent from the server. It is left to the web browser, at the client, to determine the  
13 specific formatting of the information, based on the tags included in the HTML  
14 information sent from the server. For example, information to be displayed at a  
15 client might include header information followed by a list of other information.  
16 Fig. 1A shows a portion of HTML code with such a header and list. When the  
17 HTML information is received by a client and interpreted by a web browser, the  
18 information is displayed, as is shown in Fig. 1B, for example, in which a header 10  
19 and list 12 are presented to a user at the client.

20 The HTML information sent by the server does not specify the particular  
21 size, font and placement of the header 10 and the list 12. Rather, the header and













Table 1: HTML Source Code for A Frame Based Web Browser

```
<HTML>
<HEAD>
<TITLE>Title of Web Page With Frames</TITLE></HEAD>
<FRAMESET ROWS="20%,60%,20%">
  <FRAME SRC="header.htm">
  <FRAMESET COLS="20%,80%">
    <FRAME SRC="toc.htm">
    <FRAME SRC="main.htm">
  </FRAMESET>
  <FRAME SRC="footer.htm">
</FRAMESET>
</HTML>
```

**File: HEADER.HTM**

```
<HTML><BODY>
Header Frame
</BODY></HTML>
```

**File: TOC.HTM**

```
<HTML><BODY>
Table of Contents Frame
</BODY></HTML>
```

**File: MAIN.HTM**

```
<HTML><BODY>
Main Frame
</BODY></HTML>
```

**File: FOOTER.HTM**

```
<HTML><BODY>
Footer Frame
</BODY></HTML>
```

1 Although use of frames provides another dimension of functionality for  
2 display of web-based information, web sites that use frames require web browsers  
3 to support the frame feature, in order to have information presented in the frames.  
4 While displaying information according to a frame paradigm can be useful in  
5 displaying web-based information, the size of the install base of non-frame-capable  
6 web browsers limits the use of frames. That is, in order to use frames, a frame-  
7 capable web browser must be installed on the client. However, because of the  
8 large number of installed web browsers which are not frame-capable, use of frames  
9 on web sites is often avoided, or else HTML code is included to generate both  
10 frame-based and non-frame-based web pages for transmission to frame capable and  
11 non-frame-capable web browsers. Creating two sets of data, one for frame-  
12 capable browsers and another for non-frame capable browsers, creates difficulties  
13 in managing and maintaining the redundant information.

14 Another problem with the use of presenting information in frames, is that a  
15 single, unified background image cannot be presented by a web-browser that  
16 presents frames of information.

## 17 SUMMARY OF THE INVENTION

18 The present invention is directed to solving the above problems. That is,  
19 the present invention is directed to presenting information over the World Wide  
20 Web in a manner such that information from different files or from the same file

3           An object of the present invention is to provide a system and method for  
4     managing internet presentation materials in a single file format for ease of  
5     administration while presenting to an internet requestor only those portions of the  
6     file requested, for maximum performance.

Another object is to provide a system and method for presenting internet information using borderless presentation areas, where the background specification is decoupled from the presentation area specification.

Yet another object is to provide a system and method for using a dynamic web page builder to generate and manage multiple simultaneous presentation areas, including where one presentation area includes table of contents information covering other content on a web site and where the table of contents information is maintained continuously on-screen for ease of navigation through the web site.

15           Still another object of the invention is to provide a method and system for  
16           generating presentation materials for transport over a network to a browser, in  
17           which the browser is not capable of handling frames.

18 Yet another object of the invention is to provide a web macro, which is  
19 computer-readable and embodied on a tangible medium, and which directs  
20 generation of pages of presentation materials, wherein only a single instance of

1 information is maintained, yet that information is used in generating a plurality of  
2 the pages of presentation material.

### 3 BRIEF DESCRIPTION OF THE DRAWINGS

4 The above objects and advantages of the present invention will become  
5 more apparent by describing in detail a preferred embodiment thereof with  
6 reference to the attached drawings in which:

7 Figs. 1A and B respectively depict HTML source code for a web page and  
8 a display generated by a web browser based on that source code, as is known in  
9 the prior art;

10 Fig. 2 depicts frames produced by a frame-capable web browser, as is  
11 known in the prior art;

12 Fig. 3 is a block diagram of a client/server system for transmitting  
13 presentation materials from a web-based server to a client according to the  
14 invention;

15 Fig. 4 shows presentation of materials on a web browser according to the  
16 invention;

17 Fig. 5 is a flowchart for describing a process of generating the presentation  
18 materials shown in Fig. 4;

19 Fig. 6 shows presentation of other materials on a web browser according  
20 to the invention;

1           **Fig. 7** shows a display of materials with pseudo-frames, according to the  
2 invention; and

3           **Fig. 8** shows a plurality of presentation areas with a uniform background  
4 across all the presentation areas.

## 5                           **DETAILED DESCRIPTION OF THE INVENTION**

6           A preferred embodiment of a method, system and article of manufacture  
7 for managing internet presentation materials in a single file format according to the  
8 present invention is described below in detail with reference to the accompanying  
9 drawings.

10           The present invention is directed to a method, system and article of  
11 manufacture for managing internet presentation materials in a single file format.  
12 The invention takes advantage of properties of a dynamic HTTP application  
13 software 32 program which runs on a web server 30, as shown in Fig. 3. An  
14 example of a preferred dynamic HTTP application is NET.DATA manufactured by  
15 IBM Corp., although, other programs capable of dynamically creating  
16 internet/intranet information can be used. The dynamic HTTP application 32  
17 allows information on a web page to be created or changed dynamically, while the  
18 application program is running, as opposed to maintaining merely static  
19 information which can be changed only by a system administrator, or similarly

1 authorized person. The dynamic HTTP application 32 operates according to a  
2 web macro 34.

3 The web macro 34 includes programming statements and is an embodiment  
4 of the single file format of the present invention. The web macro can be stored on  
5 a tangible, computer-readable medium, such as a computer-readable disk or tape.  
6 However, the web macro 34 is not limited to those media and may be recorded on  
7 any media which can be read so that the programming statements are supplied to  
8 the dynamic HTTP application 32. Table 2 shows an example of a portion of a  
9 web macro according to the present invention. The web macro can be recorded in  
10 a single file and includes two sections. The first section of the web macro is a  
11 definition section, typically beginning with a statement of the form %define{  
12 variable\_name = {variable\_value%}%}.

Table 2: Web Macro with a Plurality of HTML Sections

```
%define{
  header = {
    <center>IBM Internet Yellow Pages</center>
  }
  contents = {
    <b>Table of Contents</b>
    <ul>
      <li><a href="...">Purpose</a>
      <li><a href="...">Overview</a>
      <li>Hot <a href="...">New Technology</a>
      •
      •
      •
    </ul>
  }
  purpose = {
    <b><i>Purpose</i></b>
    <blockquote>
      To rapidly communicate material and ...
      <p>This internet site is updated ...
    </blockquote>
  }
  overview = {
    <b><i>Overview</i></b>
    <blockquote>
      IBM's Internet Yellow Page Solution is a collection of IBM
      software and hardware products....
      <p>Using IBM's award-winning database, DB2, ...
    </blockquote>
  }
}
```

•

•

•













1           Only portions of the web macro 34 requested by the user, are interpreted.  
2           Accordingly, a plurality of web page definitions can be stored and managed in a  
3           single file, i.e., the web macro, yet only those portions requested by a user are  
4           included in the web page generated from the web macro 34.

5           As another example, when the user selects the Overview item 53 in the  
6           Table of Contents 50, a URL is generated which identifies the "overview" variable.  
7           The corresponding request for the URL is transmitted to the web server 30. The  
8           web server 30 passes the request for the URL to the dynamic HTTP application  
9           which generates a new web page by interpreting the second HTML section of the  
10          web macro 34. Here the second HTML section, which is selected when the  
11          "overview" variable is identified, is interpreted since the URL identifies the variable  
12          "overview." As described above, a web page is then generated having the same  
13          header 58, footer 59 and Table of Contents information 50 as before, and also  
14          having an Overview portion 66, which is presented in a main area of the web  
15          browser display, as shown in Fig. 6. Here, the contents of the "overview" variable  
16          are substituted in the HTML generated for the requested web page. Similarly, the  
17          values of the other variables specified for the selected HTML section, are  
18          substituted when generating the requested web page. That requested web page,  
19          generated by the dynamic HTTP application, is passed to the server which  
20          transmits it to the client. The client 36 receives the generated HTML for the web  
21          page, passes it to the web browser 38 which displays it, thereby presenting the







server 30 which pass it to the dynamic HTTP application. The dynamic HTTP application executes the HTML section and evaluates the "if" statement. Accordingly, the value of the variable "overview" is substituted for the \$(overview) statement in the HTML section of the web macro, since the argument passed to the HTML section is "overview." In this manner the same HTML section can be used for all the items listed in the Table of Contents area of the web page.



Table 3 (continued)	
	•
	•
	•
% }	
%HTML_INPUT{	
\$(header)	
\$(contents)	
%if ( "\$\$(arg)" == "purpose" )	
\$(purpose)	
%elseif ( "\$\$(arg)" == "overview" )	
\$(overview)	
	•
	•
	•
\$(footer)	
% }	

In yet another embodiment, the web macro 34 allows a web page to be generated which include a plurality of presentation areas and a background. Here, the background is decoupled from the plurality of presentation areas so that the background appears uniform across the presentation areas. For example, if the web macro includes a background tag for pages that are generated, upon receiving a request for the Purpose information discussed above, the dynamic HTTP application would generate a web page having header, footer, Table of Contents and Purpose presentation areas, along with a single uniform background defined in



What is claimed is:

1           1.       A method for generating network presentation materials,  
2 comprising:  
3           dynamically generating first presentation materials containing an item; and  
4           dynamically generating second presentation materials based on selection of  
5 the item in said first presentation materials.

1           2.       The method according to claim 1, further comprising:  
2           downloading to a client said dynamically generated first and second  
3 presentation materials as single a web page.

1           3.       The method according to claim 1, wherein the first and second  
2 presentation materials are portions of a hypertext markup language (HTML)  
3 document.

1           4.       The method according to claim 3, wherein the first and second  
2 presentation materials are presented by a web browser to a user.

1           5.       The method according to claim 1, wherein the first and second  
2 presentation materials are recorded in a single computer file.

6. The method according to claim 1, wherein said dynamically generating second presentation materials comprises:

selecting one of a plurality of presentation portions of a program in response to selection of the item contained in the first presentation materials; and

executing said one of the plurality of presentation portions of the program, thereby dynamically generating said second presentation materials.

7. A method for managing internet presentation materials in a single file format for ease of administration while presenting to a requestor only those portions of the file requested, comprising:

defining, in a first portion of the file, a first variable equal to first information and a second variable equal to second information;

defining, in a second portion of the file, first and second presentation layouts, wherein said first presentation layout includes said first variable and said second presentation layout includes said second variable; and

generating a page of presentation material in response to a request for said first information, wherein the page is generated based on the first presentation layout and includes said first information and does not contain said second information.



















## ABSTRACT OF THE DISCLOSURE

1           A method and system are disclosed for managing Internet presentation  
2 materials in a single file format for ease of administration while presenting to an  
3 Internet requestor only those portions of the file requested, for maximum  
4 performance. Also disclosed is a system and method for presenting Internet  
5 materials using borderless presentation areas, where the background specification  
6 is decoupled from the presentation area specification. The invention also relates to  
7 a system and method for using a dynamic web page builder to generate and  
8 manage multiple instances of information to be simultaneously displayed in  
9 multiple presentation areas, in which one of the presentation areas contains table of  
10 contents information listing various selectable web pages stored in a single file.  
11 The table of contents information is continuously displayed on-screen when any of  
12 the items listed in the table of contents is selected for ease of navigation through a  
13 web site.



# FIG.1A

PRIOR ART

< HTML > < HEAD > < TITLE > Web Page Title  
< /TITLE > < /HEAD >

< BODY >  
< H1 > This is a Heading < / H1 >

< UL > This is a list of bulleted items  
< LI > First bulleted item  
< LI > Second bulleted item  
< LI > Third bulleted item  
< /UL >

< /BODY >  
< /HTML >

# FIG.1B

PRIOR ART

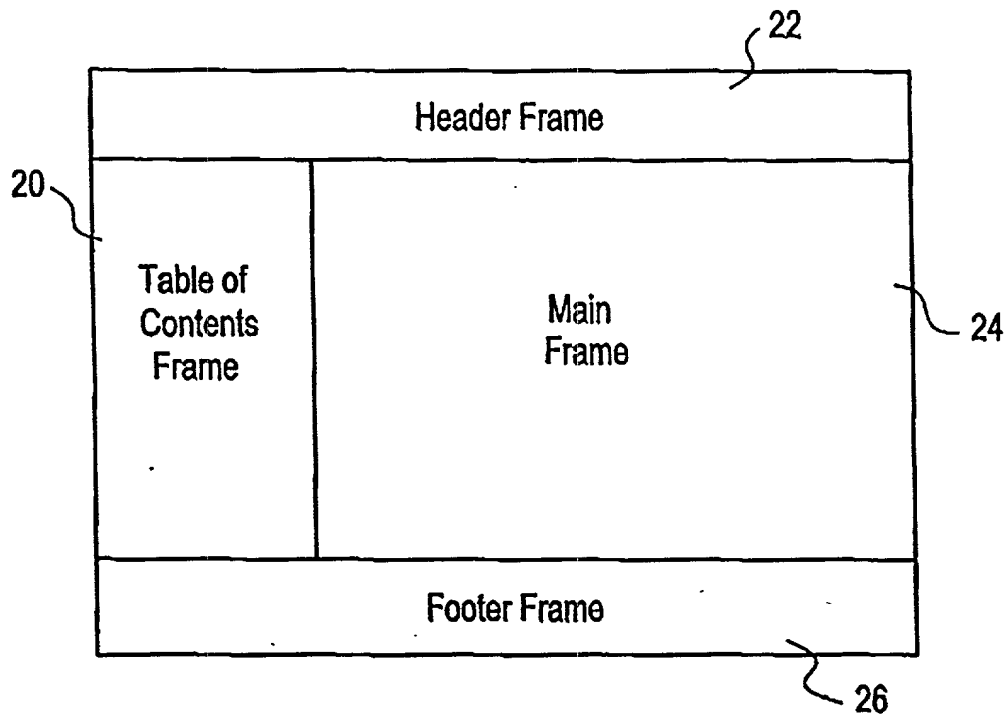
Web Page Title

This is a Heading 10

- This is a list of bulleted items
- First bulleted item
  - Second bulleted item
  - Third bulleted item

12

**FIG.2**  
PRIOR ART



**FIG.3**

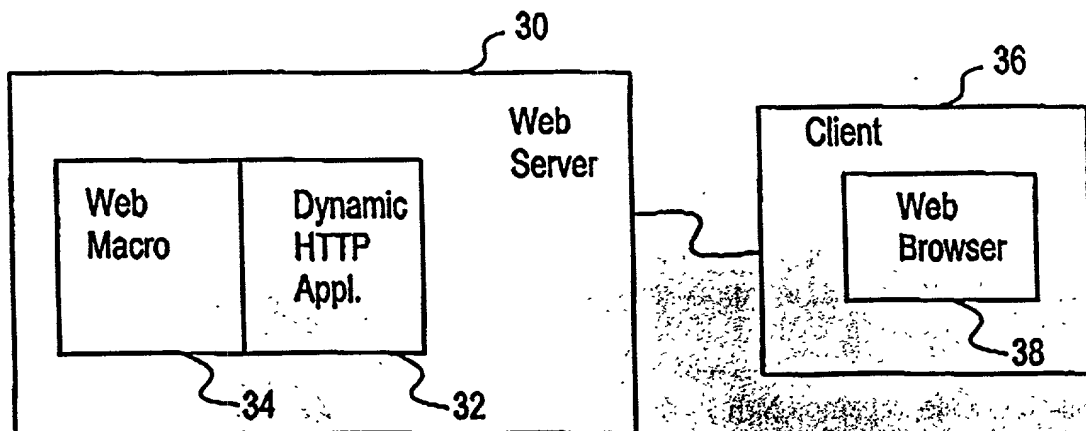


FIG.4

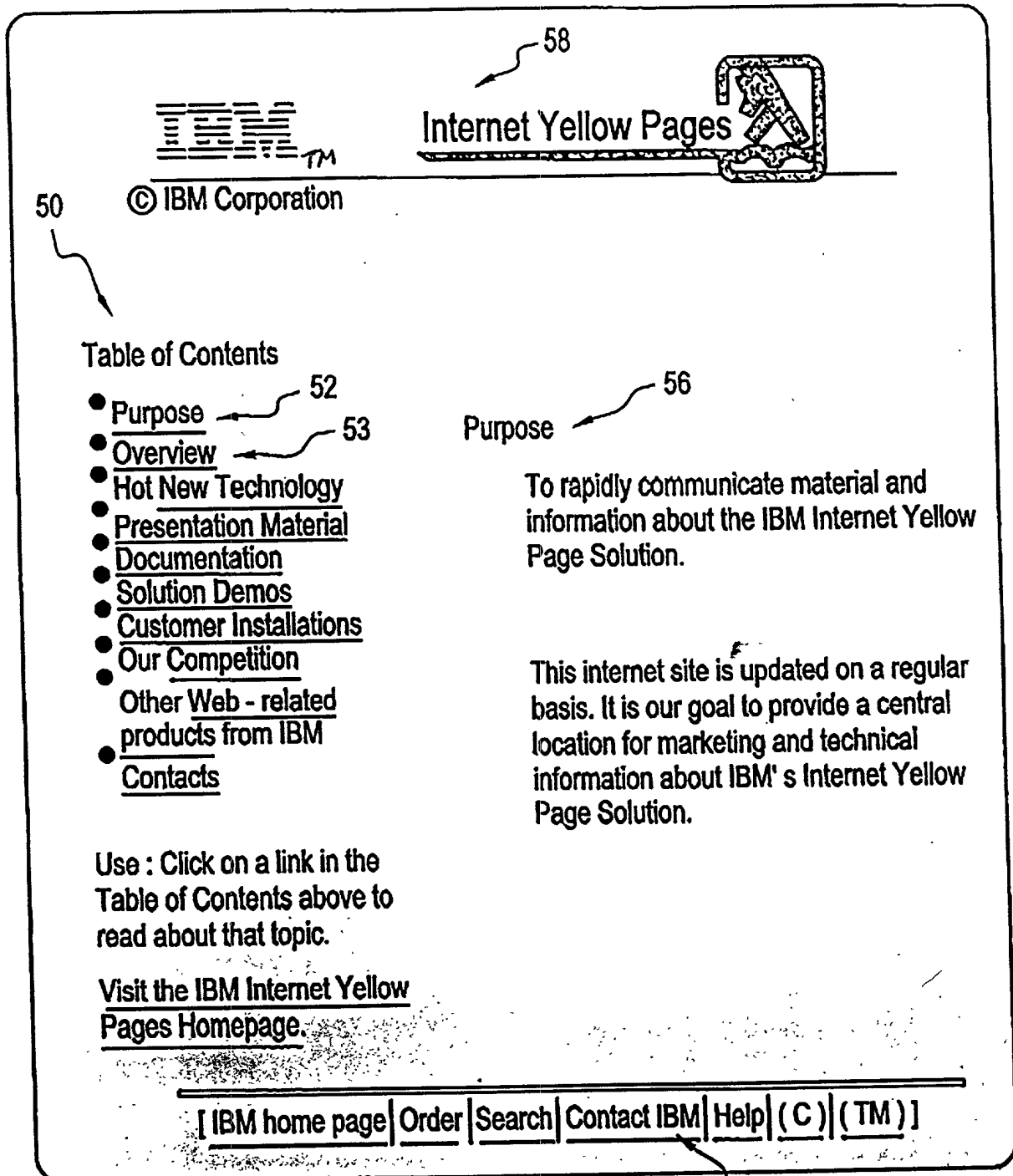
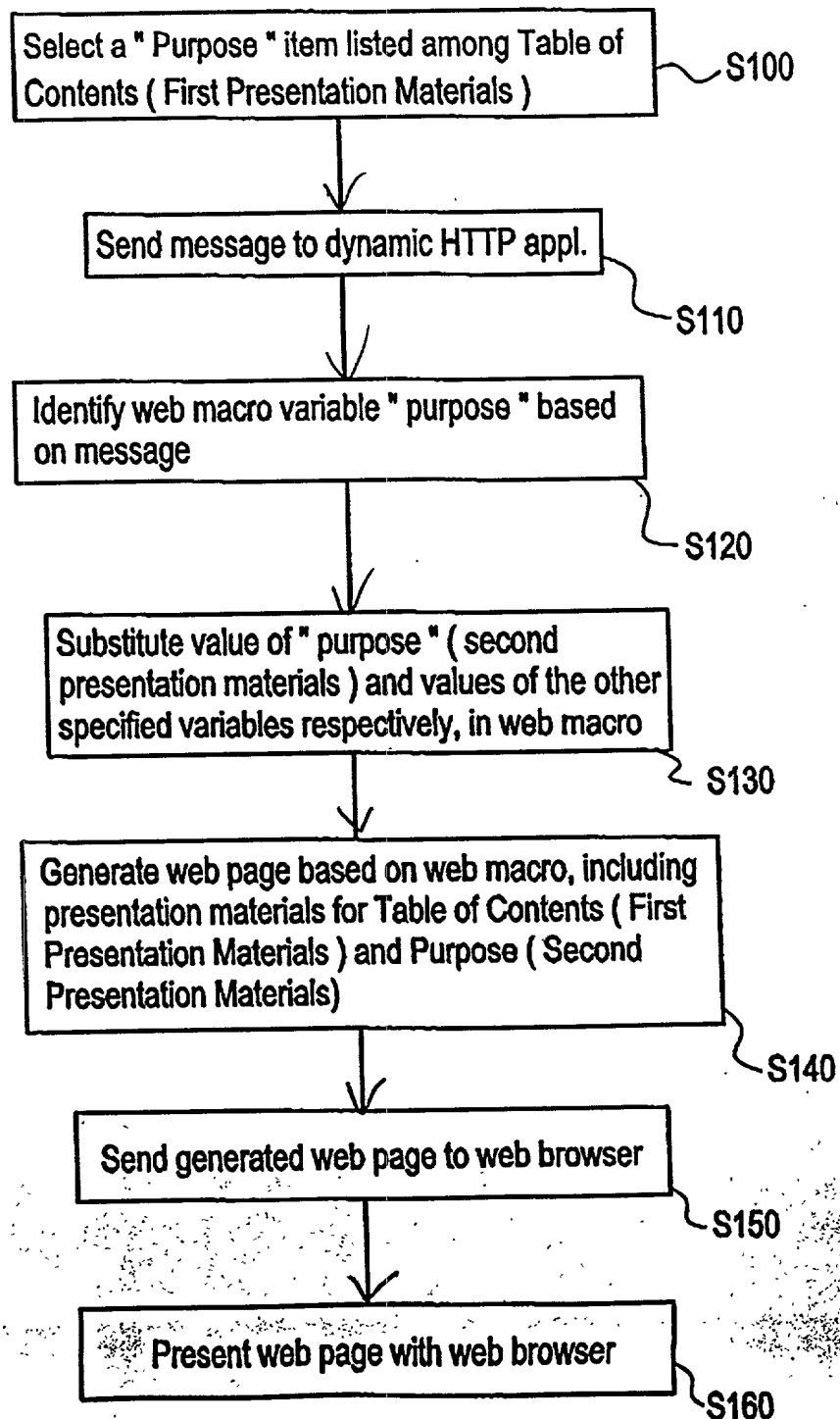


FIG.5



[illegible]

## Table of Contents

- Purpose
- Overview
- Hot New Technology
- Presentation Material
- Documentation
- Solution Demos
- Customer Installations
- Our Competition
- Other Web - related  
products from IBM
- Contacts

**Use : Click on a link in the Table of Contents Above to read about that topic.**

**Visit the IBM Internet Yellow Pages Homepage.**

58

## Overview

**IBM's Internet Yellow Page Solution is a collection of IBM software and hardware products. These "off-the-shelf" products were integrated with custom software to create a solution targeted at the needs of the telecommunication industry. This generic solution can be customized by IBM or customers to meet exact requirements.**

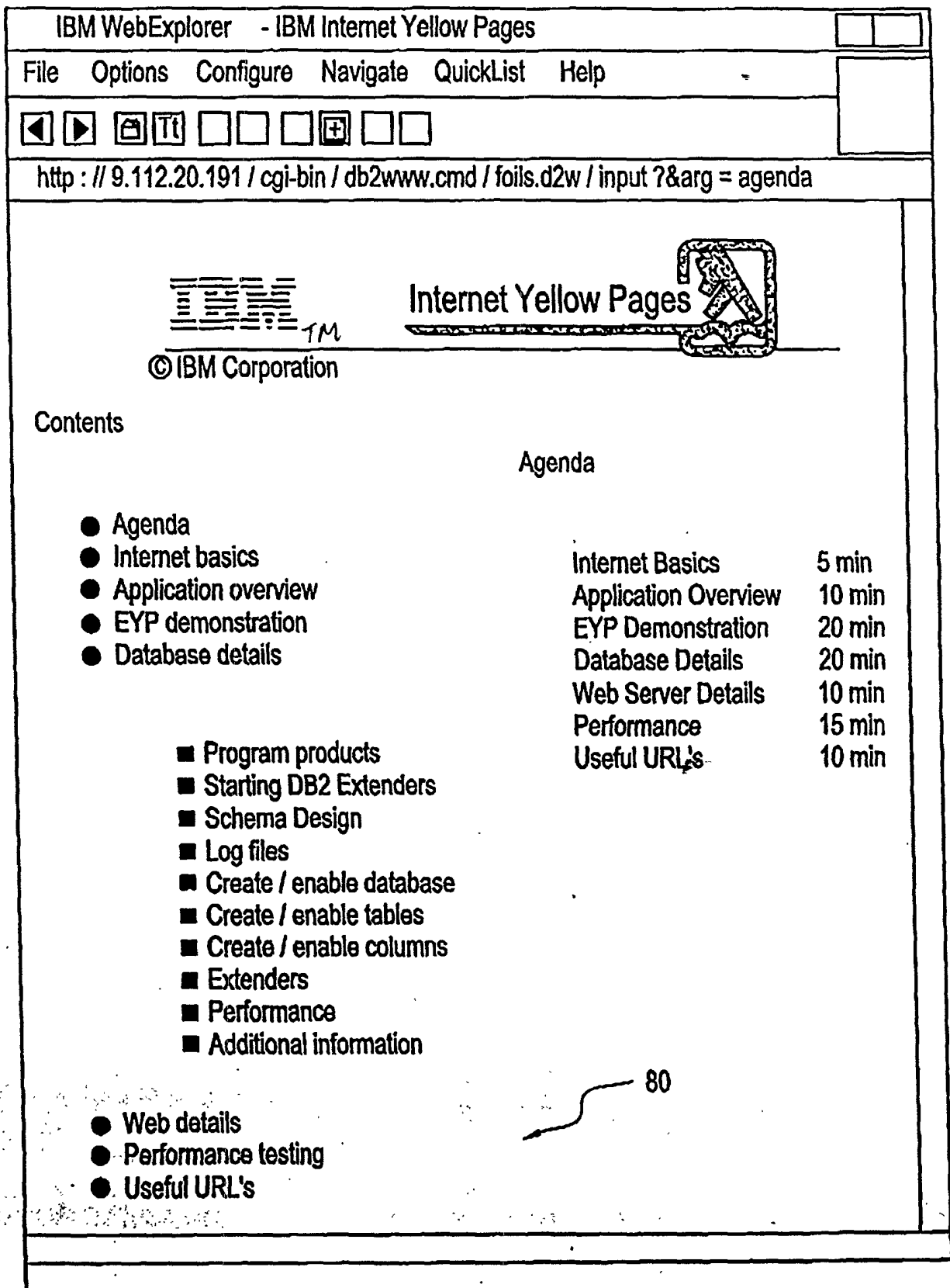
**Working closely with the telecommunications industry, IBM has developed an Electronic Yellow Page Solution which offers many advanced features over today's paper version. This rich set of function makes it second nature for consumers to "Let their fingers do the walking".**

**Using IBM's award-winning database, DB2, with DB2 Extenders and DB2 World Wide Web Connection, IBM is able to deliver the power and flexibility of a multimedia database to the Internet.**

**Maintaining and managing large - scale internet sites is a major undertaking. Many tasks must be faced on a daily basis. Handling thousands of files in hundreds of directories is one such task. IBM's Internet Yellow Pages uses DB2 to manage the data which most internet sites maintain in flat files. We provide administration and reporting tools to manage the data in your DB2 database.**

[illegible]

# FIG.8



As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name;

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

**"METHOD AND SYSTEM FOR GENERATING MATERIALS FOR PRESENTATION ON A NON-FRAME-CAPABLE WEB BROWSER"**

the specification of which (check one)

☒ is attached hereto.  
☐ was filed on \_\_\_\_\_  
as Application Serial No. \_\_\_\_\_  
and was amended on \_\_\_\_\_ (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, Section 119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s)	Priority Claimed
_____	Yes No
(Number) (Country) (Day/Month/Year Filed)	

I hereby claim the benefit under Title 35, United States Code, Section 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, Section 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56, which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

(Application Serial No.)	(Filing Date)	(Status) (patented, pending, abandoned)
--------------------------	---------------	---

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.



**POWER OF ATTORNEY:** As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. (list name and registration number)

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Full name of sole or first joint-inventor: Lee Evan NAKAMURA

Inventor's signature:



Date: July 9, 1997

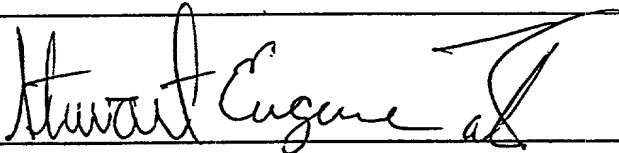
Residence: 635 San Gabriel Ave., Morgan Hill, CA 95037

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Post Office Address: 635 San Gabriel Ave., Morgan Hill, CA 95037

Full name of second joint-inventor: Stewart Eugene TATE

Inventor's signature:



Date: July 9, 1997

Residence: 960 Cheswick Drive, San Jose, CA 95121

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